

Rate Designs for Commercial EV Charging

 -chargepoint+[®]

 EVgo[®]

 T E S L A

EV CHARGING BASICS



Level 1



Level 2



DC Fast

Electrical Specs

110 – 120 Volts AC
12 – 16 Amps
(home appliance)

208/240 Volts AC
32 Amps
(home washer/dryer,
commercial standard)

208 to 480 Volts DC
70 – 125 Amps
(commercial standard)

Range Per Hour of Charging

~3 – 5 miles

~12 – 25 miles

100 - 200 miles +

Typical Time for Full Charge¹

18+ hours

~2 - 4 hours

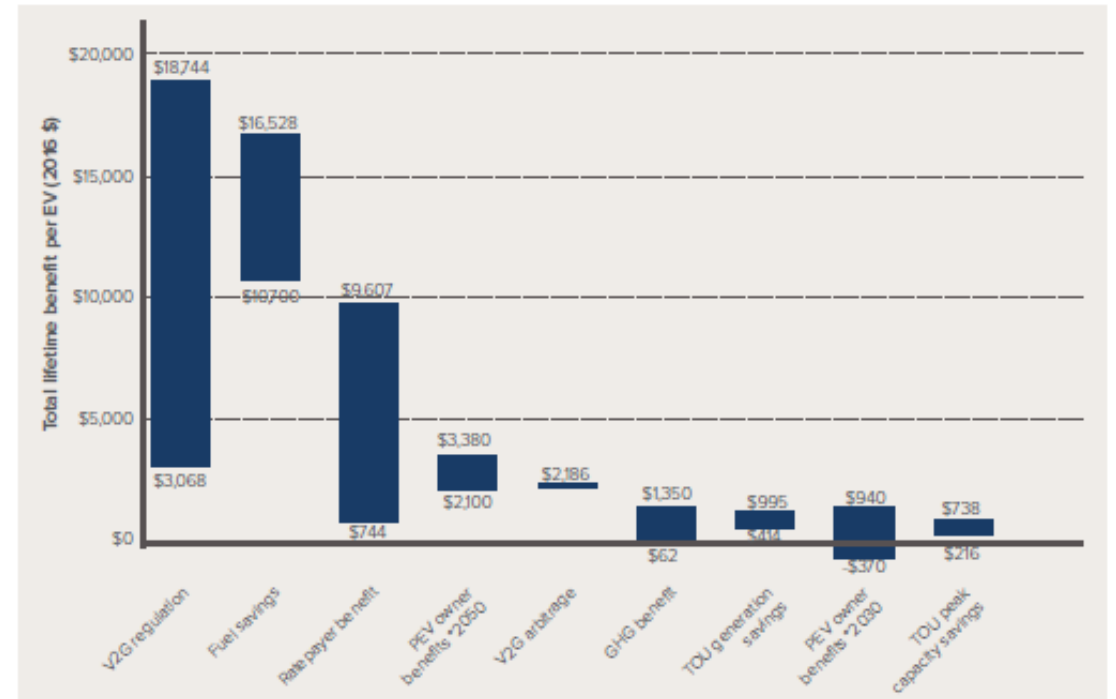
~30 – 60 mins

Home / MUD charging; public charging at longer dwell time locations and destination centers

Public charging at shorter dwell time community locations and corridors; *near* MUDs

RATEPAYER BENEFITS OF EVs

- Higher system utilization during off-peak hours.
- Additional electricity sales at average rates that significantly exceed marginal costs.
- **Reduced rates for all ratepayers.**
- Rocky Mountain Institute (RMI) estimated ratepayer savings per EV ranged from \$744 to \$9,607 over the lifetime of the vehicle.



DEMAND CHARGES

- Electricity represents the majority of operating costs for DCFC stations.
- Absent an EV charging rate, DCFC customers take service under commercial rates that include both energy and demand components.
- Demand charges account for the majority of electric costs given low load factor of public charging stations.
- **Demand charges can account for up to 90% of a station's monthly electric bill, resulting in prohibitively high operating costs and costs well above average rates.**
- Demand charges also limit proliferation of medium and heavy duty applications, including trucks, school buses, and other forms of electric public transportation.

EV RATE PRINCIPLES

- Non-residential EV rates should be:
 - Technology agnostic and accessible to all non-residential EV customers
 - Available to new and existing stations
 - Optional
 - Consider characteristics and needs of all non-residential charging, including fleet charging.
 - Provide certainty and stability for long-term investments (e.g. 10-year terms or permanent low load factor rates)
 - Consider time-varying rates to best reflect true cost causation
 - Cost based
 - Limit monthly fixed charges, non-coincident demand, or subscription charges
 - Minimize demand charges and maximize the use of TOU volumetric rates, particularly when utilization of the charging infrastructure is low
 - Encourage early adoption and full lifecycle recovery by adjusting rates to match growing load
 - Leverage previous rates designed to industry specific load shapes (e.g. low load factor rates for agriculture, etc.)

COMMERCIAL EV RATE EXAMPLES

Utility	Exemplar Rates
Southern California Edison	TOU – EV – 8 <ul style="list-style-type: none"> • All volumetric TOU rates for first 5 years, with demand charges phased back in years 6-10 • TOU volumetric energy charges increased to recover costs
Eversource, CT	EV Rate Rider Pilot (EVRRP) <ul style="list-style-type: none"> • Demand charges of the applicable commercial rates are converted to an equivalent \$/kWh charge for all kWh utilized by the DCFC customer during each billing period
SDG&E, CA	TOU – M (Interim Rate) <ul style="list-style-type: none"> • EV charging sites can temporarily switch onto this rate with a \$2.50/kW demand charge and the 40 kW demand cap waived
Dominion, VA	GS – 2 (Non-Demand) <ul style="list-style-type: none"> • Low usage sites (<200 kWh per kW) qualify for this non-demand general service rate • Technology neutral
Madison Gas & Electric, WI	Low Load Factor Provision <ul style="list-style-type: none"> • Commercial customers on rate schedules Cg-4, Cg-2, or Cg-2A; annual electric load factor <15%. On-Peak Demand Reduction of 50% • Technology neutral
DTE Energy, MI	GS – D3 <ul style="list-style-type: none"> • The 1000 kW demand cap for this non-demand general service rate is waived for DCFCs through June 1, 2024
Ameren, IL	Rider EVCP <ul style="list-style-type: none"> • 10 year declining demand limiter for distribution delivery • Off-peak provision removal